



A.D. 1852 N^o 886.

SPECIFICATION

OF

EDWIN LEWIS BRUNDAGE.

DRAWING BLOOD, MILK, &c., FROM ANIMAL
BODIES.

LONDON:

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NEAR FLEET STREET.



A.D. 1852 N° 886.

Drawing Blood, Milk, &c., from Animal Bodies.

LETTERS PATENT to Edwin Lewis Brundage, of Jewin Crescent, in the City of London, Gentleman, for the Invention of “**IMPROVEMENTS IN APPARATUS FOR DRAWING OFF FLUIDS FROM ANIMAL BODIES.**”
A communication.

Sealed the 22nd January 1853, and dated the 26th November 1852.

PROVISIONAL SPECIFICATION left by the said Edwin Lewis Brundage at the Office of the Commissioners of Patents, with his Petition, on the 26th November 1852.

I, EDWIN LEWIS BRUNDAGE, do hereby declare the nature of the
5 said Invention for “**IMPROVEMENTS IN APPARATUS FOR DRAWING OFF FLUIDS FROM ANIMAL BODIES**” to be as follows:—

The apparatus which forms the subject of the present application is intended, under slight modifications, to be used by cuppers for drawing off blood or for taking milk from the breast and for other
10 analogous uses. When employed for drawing off milk, it is composed of a glass cup, or receiver, which communicates with a compressible elastic chamber intended as an exhauster. A bent tube projects from this chamber into the cup, and forms a channel for the

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escape of the air contained in the cup without disturbing the milk which it may contain. The chamber is provided with a valve opening outwards, and a coiled spring is inserted in the chamber for the purpose of keeping it expanded.

In operating with this apparatus the cup is applied to the breast, 5 and the chamber is alternately compressed by the fingers and allowed to expand by the elastic pressure of the spring, and thus a partial vacuum is set up in the cup (the air being drawn out through the tube before mentioned), which partial vacuum may be maintained as long as is thought desirable, by continuing the ex- 10 hausting action of the compressible chamber.

When the apparatus is to be applied for drawing off blood, it will be convenient to provide the chamber with two valves; the one for effecting the exhausting, as before, and the other for preventing the return of air to the partially exhausted receiver, which might other- 15 wise occur by reason of the compression of the chamber to effect its exhaustion.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Edwin Lewis Brundage in the Great Seal Patent Office on the 23rd March 1853. 20

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, EDWIN LEWIS BRUNDAGE, of Jewin Crescent, in the City of London, Gentleman, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-sixth day of November, 25 One thousand eight hundred and fifty-two, and in the sixteenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Edwin Lewis Brundage, Her special license that I, the said Edwin Lewis Brundage, my executors, administrators, and assigns, or such others as I, the said Edwin 30 Lewis Brundage, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all

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times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN APPARATUS FOR DRAWING OFF**
5 **FLUIDS FROM ANIMAL BODIES**," being a communication from abroad, upon the condition (amongst others) that I, the said Edwin Lewis Brundage, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and
10 cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Edwin Lewis Brundage, do hereby declare the nature of the said Invention, and in what manner
15 the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the Drawings hereunto annexed, and to the letters and figures marked thereon (that is to say):

This Invention, as communicated to me by my foreign correspondent, relates to the combination of a breast cup, cupping or leeching
20 glass, with a flexible chamber, which is capable of being compressed to exhaust the air therefrom, and of expanding by the force of a spring contained therein, and which is provided with a valve or valves arranged so as to open as desired to permit of the exhaustion
25 of the chamber, and to operate in an opposite manner to insure suction when the cylinder shall expand.

In the accompanying Drawing, Fig. 1, is an elevation of an apparatus constructed according to this Invention, and intended to be used for drawing milk from the breasts of females. Fig. 2, is a
30 longitudinal section, representing the interior of the same. Fig. 3, is a partial section of a modification of the apparatus constructed for the use of cuppers; and Fig. 4, is a view of a tube to replace the cupping glass when the apparatus is employed in connection with the operation of leeching.

35 The construction of the apparatus is as follows: A, A*, are the

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heads of a flexible chamber B. These heads are made of Britannia ware, or other suitable rigid material, and they are united together by a tube of india rubber, or other flexible material impervious to air. In the stem a , which screws into the head A, a small tube, C, is inserted. This tube extends into a cup or glass, D, which is 5 cemented into the socket of the screw stem, its use being to form a passage for the escape of the air from the glass when the instrument is applied to the breast, and thereby to assist in obtaining a partial vacuum in the glass. If preferred, the stem a , may be dispensed with, and the glass attached directly to the head A. Between the two 10 heads A, A*, and bearing on the inner surface thereof, is a coiled spring, E, which is enclosed within the india rubber cloth tube, and has the tendency to keep the chamber extended to its full capacity. The flexible tube is secured to the heads A, A*, by bending its edges upon their projecting flanges b, b . In the head A* (see Fig. 15 2), there is an opening, c , covered by a valve, d , which is enclosed in a small chamber formed by a cap, e , which is perforated with several holes for the passage of air. When operating with the breast cup, the glass is placed to the breast, the end of the tube, C, being uppermost in order to prevent the milk from flowing into the 20 cylinder. The heads A, A*, are then pressed together, which action causes the valve d to open, and permits the air contained in the chamber B, to escape through the opening c . The pressure is then withdrawn from the heads, and the chamber is left free to expand by the force of the spring E. The valve d now closes by reason of the 25 pressure of the outward air, and the exhausted chamber, B, sucks up the air contained in the glass D, and causes the milk to flow from the breast and fill the partial vacuum thus created in the glass.

In the arrangement of the apparatus for cupping or leeching, there is an extra valve, f (see Fig. 3), mounted on the screw stem a , so 30 that when the chamber B is contracted, and the exhaustion takes place, the valve f will close and bar any pressure of air in the cup or tube, and when expanding the in-draft of air from the cup or tube to the chamber, will open the valve and permit of the exhaustion taking place.

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Having thus described the nature and object of the Invention of
“IMPROVEMENTS IN APPARATUS FOR DRAWING OFF FLUIDS FROM ANIMAL BODIES,”
as communicated to me by my foreign correspondent, I wish it to be
understood that under the above in part recited Letters Patent, I
5 claim the combination of a flexible exhaust chamber, with a breast
cup, cupping glass, or leeching tube, when such chamber is provided
with a spring for effecting its expansion, and is fitted with a valve
or valves operating in the manner and for the purpose above set forth.

10 In witness whereof, I, the said Edwin Lewis Brundage, have
hereunto set my hand and seal, this Twenty-second day of
March, in the year of our Lord One thousand eight hundred
and fifty-three.

E. L. BRUNDAGE. (L.S.)

Witness,

15 J. W. MOFFATT,
66, Chancery Lane, London.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1854.

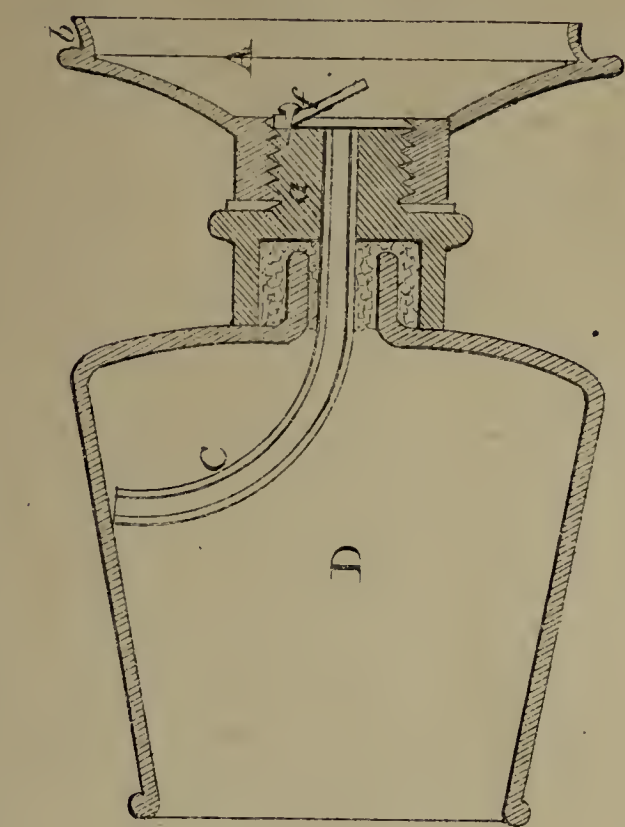


FIG. 3.

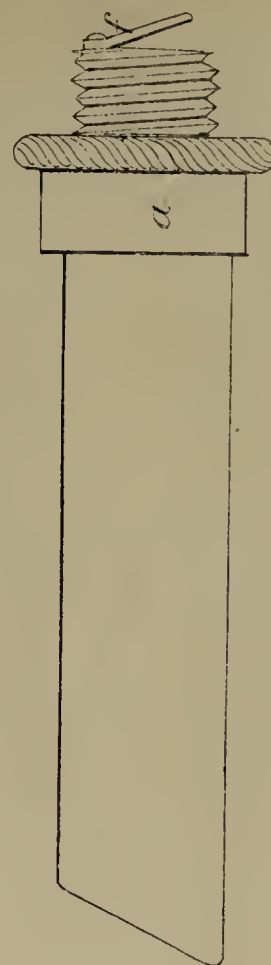


FIG. 4.

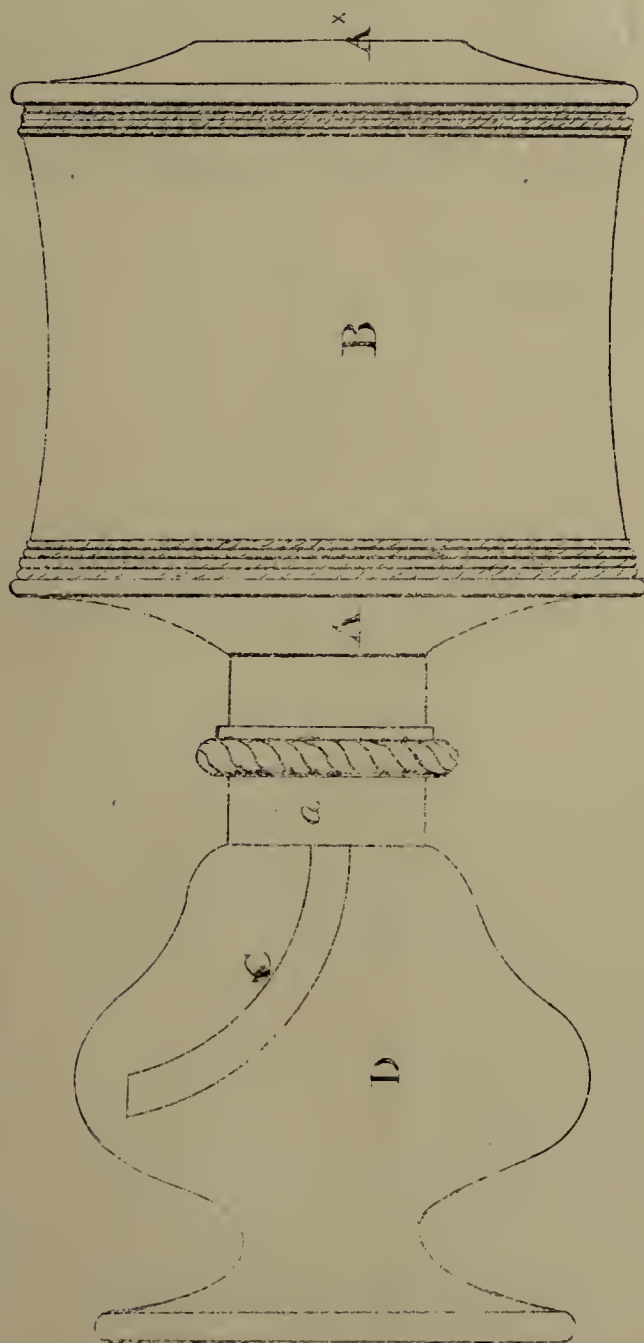


FIG. 1.

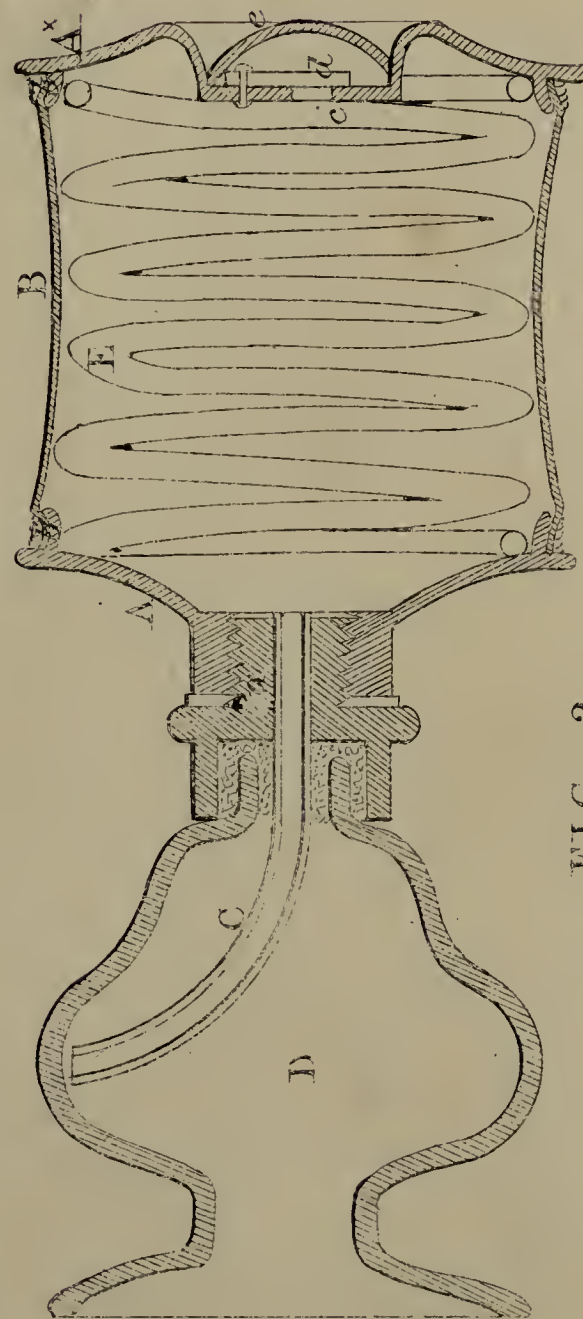


FIG. 2.

The filed drawing is partly colored.

Day & Son, Lith^{rs} to the Queen.

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